Math 1910-003: Practice Quiz 9

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Your Name:.....

Problem 1

If

$$\int_2^6 f(x)dx = 10 \text{ and } \int_2^6 g(x)dx = 3,$$

find

(a)
$$\int_2^6 f(x) + g(x)dx$$

(b)
$$\int_2^6 f(x) - g(x)dx$$

(c)
$$\int_2^6 2f(x) - 3g(x)dx$$

(d)
$$\int_2^6 5f(x)dx$$

Problem 2

If

$$\int_0^3 f(x)dx = 4 \text{ and } \int_3^6 f(x)dx = -1,$$

find

(a)

$$\int_0^6 f(x)dx$$

(b)

$$\int_6^3 f(x)dx$$

(c)

$$\int_4^4 f(x)dx$$

(d)

$$\int_3^6 -10f(x)dx$$

Problem 3

Evaluate the definite integral by using the limit of the upper sum definition

$$\int_{-2}^{3} x dx.$$

Problem 4

Find the sum.

$$\sum_{i=1}^{5}(2i+1).$$

Problem 5

$$\int_0^{\pi} (1 + \sin(x))dx.$$

Problem 6

$$\int_{-\frac{\pi}{6}}^{\frac{\pi}{6}} \sec^2(x)dx.$$

Problem 7

$$\int_1^3 x^3 + 10\,dx.$$

Problem 8

Use the Second Fundamental Theorem of Calculus to find $F'(x)$,

$$\int_0^x t^2\sqrt{1+t^3}dt$$

Problem 9

Find the the upper and lower sums for the region bounded by the graph of $f(x) = x$ the x-axis between $x = 0$ and $x = 2$.